

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Yuji ONO et al.**

Serial No.: **Not Yet Assigned**

Filed: **August 29, 2001**

For: **SINGLE WAFER TYPE SUBSTRATE CLEANING METHOD AND APPARATUS**

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

August 29, 2001

Sir:

Prior to the calculation of the filing fees of the above application, please amend the application as follows:

IN THE CLAIMS:

Please amend claims 10 and 12-14 as follows:

10. (Amended) The single wafer type substrate cleaning apparatus according to Claim 5, wherein the gas injection section is movable between a use position where it cooperates with the cleaning chamber and a standby position where it does not interfere with the chemical fluid supply means.

12. (Amended) The single wafer type substrate cleaning apparatus according to any of Claims 4 to 10, wherein the cleaning chamber is designed in such manner that the inner peripheral portion of each annular treatment bath does not contact the outer periphery of the wafer supporting

0940788-082901
062230-88204650

section of the wafer rotary means, and the annular gap defined between these edges is at very small intervals to prevent chemical fluids and purified water from being leaked downward.

13. (Amended) The single wafer type substrate cleaning apparatus according to any of Claims 4 to 10, wherein the chemical fluid supply section consists of injection nozzles for injecting and supplying cleaning fluid to the face of each wafer which is supported by the wafer rotary means from above, and the injection nozzles are provided to be horizontally turnable while directed downward, and inject and supply the cleaning fluid to the face of each wafer which is rotatably supported by the wafer rotary means while it is turned horizontally from the outer peripheral portion toward the center thereof or in standstill position as it is horizontally turned.

14. (Amended) The single wafer type substrate cleaning apparatus according to any of Claims 4 to 10, wherein the inert gas is a nitrogen gas.

REMARKS

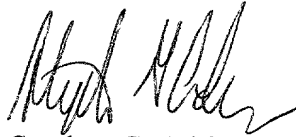
The above amendment is believed to place the claims in proper condition for examination.
Early and favorable action is awaited.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

In the event there are any additional fees required, please charge our Deposit Account No.
01-2340.

Respectfully submitted,

ARMSTRONG, WESTERMAN, HATTORI,
McLELAND & NAUGHTON, LLP



Stephen G. Adrian
Reg. No. 32,878

Atty. Docket No. 011075
Suite 1000
1725 K Street, N.W.
Washington, D.C. 20006
Tel: (202) 659-2930
SGA/yap

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claims 10 and 12-14 have been amended as follows:

10. (Amended) The single wafer type substrate cleaning apparatus according to ~~any of Claims 5 to 9~~ Claim 5, wherein the gas injection section is movable between a use position where it cooperates with the cleaning chamber and a standby position where it does not interfere with the chemical fluid supply means.

12. (Amended) The single wafer type substrate cleaning apparatus according to any of Claims 4 to ~~11~~ 10, wherein the cleaning chamber is designed in such manner that the inner peripheral portion of each annular treatment bath does not contact the outer periphery of the wafer supporting section of the wafer rotary means, and the annular gap defined between these edges is at very small intervals to prevent chemical fluids and purified water from being leaked downward.

13. (Amended) The single wafer type substrate cleaning apparatus according to any of Claims 4 to ~~12~~ 10, wherein the chemical fluid supply section consists of injection nozzles for injecting and supplying cleaning fluid to the face of each wafer which is supported by the wafer rotary means from above, and the injection nozzles are provided to be horizontally turnable while directed downward, and inject and supply the cleaning fluid to the face of each wafer which is rotatably supported by the wafer rotary means while it is turned horizontally from the outer peripheral portion toward the center thereof or in standstill position as it is horizontally turned.

14. (Amended) The single wafer type substrate cleaning apparatus according to any of Claims 4 to ~~13~~ 10, wherein the inert gas is a nitrogen gas.